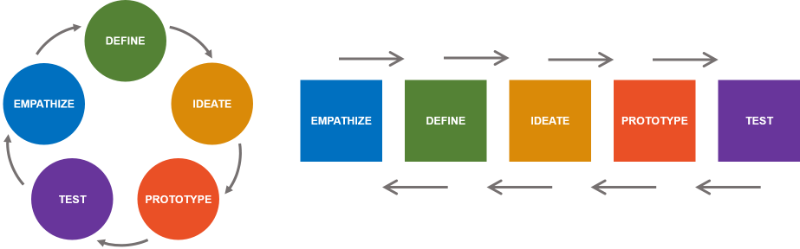
**My Thermochem thoughtbook**

**My name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**My chemistry doodling profile**

**Inquiry Task: Design a commercial hot and cold packs using the appropriate mass of chemicals**

**My roadmap to solve this problem:**

**DESIGN THINKING CYCLE - KNOW YOUR USER PLANNING SHEET**

You’ve embarked on a journey to design a useful product. This is perhaps your very first product you help design in your high school career. As with anything new, it is expected that there will be obstacles and challenges along the way.

In your design team, start by gaining empathy with your users

2. Our user need is:

1. **Identify the users:**

Who are the users of your product?

**4. We decided to move forward with:**

**3. Our question is:**

How might we …?

**Plan your research**

**You will need to get out into the world and learn from people. This is called fieldwork. You want to plan who to speak with, where you might visit, and the types of research your team want to conduct etc.**

1. **Learn from people**

Who will you be designing the hot/cold pack for? Consider both the core users and the extended community. Imagine a map of all the people who might have something to do with your design challenge. Think of characteristics that would make them interesting to meet. Also consider speaking with users who represent extreme (as opposed to mainstream) viewpoints

***Go out and interview and observe your users***

1. **Learn from Experts**

Who are the inspiring researchers, organizations or business in the area of your design challenge? Move beyond just watching youtube. A telephone or Skype call with experts who aren’t local often works very well

1. **Immerse yourself in context:**

With a curious mindset, inspiration and new perspectives can be found in many places and without much preparation. Sharpen your skills and get started observing the world around you. Plan your observations by choosing places where you can have experiences that are relevant to your challenge

**Experts to speak to**

**What have I learnt from them?**

**Immerse yourself in context:**

**People to learn from (teachers, peers, admin, support staff, family, communit etc. )**

**What have I learnt from them?**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Submission requirements for hot/cold pack design inquiry task**

* Physical, packaged, ready-to-use hot OR cold pack
* A detailed procedure of how the product is made (i.e. chemicals used, amount, packaging material, method used in measuring energy released/absorbed etc.) (can be written or video-recorded)
* All thermochemical calculations pertaining your product
* Clearly outline any improvement/refinement of your prototype in your procedure
* User experience must be incorporated in your design of the product. Your research and the planning sheet should help you accomplish this task.
* Submit all your planning sheets (the 2 legal sized handouts I gave you with the titles “know your user planning sheet” and “Planning your research”)
* A sale pitch/ad/infomercial explaining why consumers should choose your product, using multimedia or any Web 2.0 tools (i.e. piktochart, canva, podcast, youtube, blog, website etc). This relies on how innovative your product is.

**Important dates**

* **Prototyping date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ where you will test out your prototype of your product in preparation for scaling up**
* Product expo day (due date of all components of this project): **\_\_\_\_\_\_\_\_\_\_\_\_**